

**What Is Claimed Is:**

- 1           1.       A method for testing the motion performance of an electronic  
2 display system, wherein the electronic display system is comprised of a display,  
3 graphics processing software, graphics processing circuitry, and an interface  
4 coupling the display and the graphics processor, the method comprising:  
5           receiving a set of test parameters;  
6           using the set of test parameters to generate a video image of an object in  
7 motion;  
8           displaying the video image of the object in motion on the display; and  
9           measuring the amount of distortion in the shape of the object in motion  
10 relative to the shape of the object in a stationary state.
- 1           2.       The method of claim 1, wherein the method further comprises;  
2           displaying a second object; and  
3           measuring the amount of distortion caused by the interaction of the second  
4 object with the object in motion.
- 1           3.       The method of claim 1, further comprising:  
2           receiving a request to change an attribute of the object in motion; and  
3           in response to the request, changing an attribute of the object in motion.
- 1           4.       The method of claim 3, wherein the attributes can include one of  
2 color, size, shape, shading, fill pattern, speed, direction of movement, and type of  
3 movement.

- 1           5.       The method of claim 1, wherein measuring the amount of  
2 distortion of the object in motion relative to the object in the stationary state  
3 further involves:  
4           placing a ruler on a boundary of the object where the distortion occurs;  
5           increasing a width of the ruler until the ruler covers the distortion; and  
6           measuring the width of the ruler to determine the size of the distortion.
- 1           6.       The method of claim 5, further comprising displaying the ruler  
2 every  $n^{th}$  refresh cycle to minimize distortion of the ruler.
- 1           7.       The method of claim 5, further comprising using the width of the  
2 ruler to determine response time of the pixels in the display.
- 1           8.       The method of claim 1, wherein the distortion can include one of:  
2 flickering;  
3 flashing;  
4 smearing;  
5 blurring;  
6 line spreading;  
7 geometric distortion;  
8 color-induced artifacts; and  
9 inaccurate color reproduction.
- 1           9.       The method of claim 1, further comprising storing the set of test  
2 parameters to a storage medium to facilitate producing an identical set of test  
3 parameters during a subsequent test.

1           10.     The method of claim 1, further comprising recording the measured  
2     distortion on a storage medium.

1           11.     A computer-readable storage medium storing instructions that  
2     when executed by a computer cause the computer to perform a method for testing  
3     the motion performance of an electronic display system, wherein the electronic  
4     display system is comprised of a display, graphics processing software, graphics  
5     processing circuitry, and an interface coupling the display and the graphics  
6     processing circuitry, the method comprising:  
7           receiving a set of test parameters;  
8           using the set of test parameters to generate a video image of an object in  
9     motion;  
10          displaying the video image of the object in motion on the display; and  
11          measuring the amount of distortion in the shape of the object in motion  
12     relative to the shape of the object in a stationary state.

1           12.     The computer-readable storage medium of claim 11, wherein the  
2     method further comprises:  
3           displaying a second object; and  
4           measuring the amount of distortion caused by the interaction of the second  
5     object with the object in motion.

1           13.     The computer-readable storage medium of claim 11, wherein the  
2     method further comprises:  
3           receiving a request to change an attribute of the object in motion; and  
4           in response to the request, changing an attribute of the object in motion.

1           14.     The computer-readable storage medium of claim 13, wherein the  
2     attributes can include one of color, size, shape, shading, fill pattern, speed,  
3     direction of movement, and type of movement.

1           15.     The computer-readable storage medium of claim 11, wherein  
2     measuring the amount of distortion of the object in motion relative to the object in  
3     the stationary state further involves:  
4             placing a ruler on a boundary of the object where the distortion occurs;  
5             increasing a width of the ruler until the ruler covers the distortion; and  
6             measuring the width of the ruler to determine the size of the distortion.

1           16.     The computer-readable storage medium of claim 15, wherein the  
2     method further comprises displaying the ruler every  $n^{th}$  refresh cycle to minimize  
3     distortion of the ruler.

1           17.     The computer-readable storage medium of claim 15, wherein the  
2     method further comprises using the width of the ruler to determine response time  
3     of the pixels in the display.

1           18.     The computer-readable storage medium of claim 11, wherein the  
2     distortion can include one of:  
3             flickering;  
4             flashing;  
5             smearing;  
6             blurring;  
7             line spreading;  
8             geometric distorting;

9 color-induced artifacts; and  
10 inaccurate color reproduction.

1 19. The computer-readable storage medium of claim 11, wherein the  
2 method further comprises storing the set of test parameters to a storage medium to  
3 facilitate producing an identical set of test parameters during a subsequent test.

1 20. The computer-readable storage medium of claim 11, wherein the  
2 method further comprises recording the measured distortion on a storage medium.

1 21. An apparatus for testing the motion performance of an electronic  
2 display system, wherein the electronic display system is comprised of a display,  
3 graphics processing software, graphics processing circuitry, and an interface  
4 coupling the display and the graphics processing circuitry, comprising:  
5 a receiving mechanism configured to receive a set of test parameters;  
6 a graphics mechanism configured to use the set of test parameters to  
7 generate a video image of an object in motion;  
8 a display mechanism configured to display the video image of the object in  
9 motion on the display; and  
10 a measurement mechanism configured to measure the amount of distortion  
11 in the shape of the object in motion relative to the shape of the object in a  
12 stationary state.

1 22. The apparatus of claim 21, wherein the display mechanism is  
2 further configured to display a second object, and the measurement mechanism is  
3 further configured to measure the amount of distortion caused by the interaction  
4 of the second object with the object in motion.

1           23.    The apparatus of claim 21, wherein the receiving mechanism is  
2 further configured to receive a request to change an attribute of the object in  
3 motion, and in response to the request, to change an attribute of the object in  
4 motion.

1           24.    The apparatus of claim 23, wherein the attributes can include one  
2 of color, size, shape, shading, fill pattern, speed, direction of movement, and type  
3 of movement.

1           25.    The apparatus of claim 21, wherein the measurement mechanism is  
2 further configured to:  
3           place a ruler on a boundary of the object where the distortion occurs;  
4           increase a width of the ruler until the ruler covers the distortion; and  
5           measure the width of the ruler to determine the size of the distortion.

1           26.    The apparatus of claim 25, wherein the measurement mechanism is  
2 further configured to display the ruler every  $n^{th}$  refresh cycle to minimize  
3 distortion of the ruler.

1           27.    The apparatus of claim 25, wherein the measurement mechanism is  
2 further configured to use the width of the ruler to determine response time of the  
3 pixels in the display.

1           28.    The apparatus of claim 21, wherein the distortion can include one  
2 of:  
3           flickering;

4 flashing;  
5 smearing;  
6 blurring;  
7 line spreading;  
8 geometric distorting;  
9 color-induced artifacts; and  
10 inaccurate color reproduction.

1 29. The apparatus of claim 21, further comprising a storage mechanism  
2 configured to store the set of test parameters to a storage medium to facilitate  
3 producing an identical set of test parameters during a subsequent test.

1 30. The apparatus of claim 21, further comprising a recording  
2 mechanism configured to record the measured distortion on a storage medium.